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ABSTRACT

The present status of higher education in the United States is considered, based on the theory of development of human capital, which proposes that the developed abilities of a nation's population are fundamental to its economic growth and well-being. Attention is also directed to social and cultural benefits. The following ideas are stressed: that U.S. higher education has become increasingly accessible to previously underserved populations and responsive to labor market needs, but that serious challenges remain for greater effort; that government investment in college students, through student aid, is an public investment in human capital and a means for ensuring educational opportunity; that U.S. universities play an essential part in basic research and the production of new knowledge; and that U.S. colleges and universities have an expanding role in providing opportunities for job training and retraining for workers of all ages. Undergraduate education is marked by diversity in goals and types of programs. In regard to graduate education, it is suggested that there is a need to expand graduate science, engineering, and related programs in order to meet critical national human capital needs. The fact that faculty are faced with problems of job security and deteriorating working conditions interferes with effective performance. The poor national economy adversely affects institutions' budgets, teaching and learning conditions, and research and scholarship; reductions in federal student aid threaten the continued accessibility of colleges. (SW)

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1982

The National Investment in Higher Education

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National Investment Paper on Higher Education

"The emergence of new technologies is creating serious shortages of trained manpower, especially in the so-called 'high technology' fields, which government sources indicate will persist throughout the 1980s."

What This Report Is About

Our purpose is to offer a report card on the present status of higher education in the United States. It is intended for all who have an active interest in the vitality of our nation's colleges and universities and in the fullest possible education of our entire population.

We will discuss the performance of higher education in the U.S. by using the concept of *development of human capital*. The theory of human capital says, in effect, that the developed abilities of a nation's population are fundamental to its economic growth and well-being. We include social and cultural benefits as well.

Our report will set forth numerous facts about higher education in the United States, and will stress:

- That U.S. higher education, both undergraduate and graduate, has become increasingly accessible to previously underserved populations, and responsive to labor market needs, but that serious challenges remain for greater effort;
- That government investment in college students—through student aid—is an essential public investment in human capital and a means for ensuring educational opportunity;
- That U.S. universities play an essential part in basic research and the production of new knowledge;
- That our nation's colleges and universities have an expanding role providing opportunities for job training and retraining for workers of all ages.

Our assessment of U.S. higher education stems in part from several disturbing aspects of life in the early 1980s:

- The U.S. economy is performing poorly. Although productivity is still the highest of the major nations, several countries are rapidly gaining. Thus manufacturing productivity in the U.S. increased by 28 percent between 1970 and 1980. In Japan, productivity grew 102 percent during the decade; in France, 61 percent; in West Germany, 60 percent; and in the Soviet Union, 34 percent.
- Unemployment in the U.S., over 10 percent by the fall of 1982, is the highest since 1941.
- The emergence of new technologies is creating serious shortages of trained manpower, especially in the so-called "high technology" fields, which government sources indicate will persist throughout the 1980s.
- Burgeoning technological innovation and information production render everyday life increasingly complex and informed participation in political life ever more difficult.

Needed are citizens not only literate in the basic sense of ability to read and write, but equipped with: (1) a basic understanding of technological and scientific facts, principles, and processes—in short, "technological literacy"; (2) interest in and understanding of government and political affairs—what has been called "civic literacy"; and (3) a positive attitude toward change itself, including a willingness to engage in learning throughout one's life to accommodate to continuing change.

Returns From Investing in Higher Education

Research has consistently shown that college graduates have higher average incomes (and pay more taxes) and lower rates of unemployment, than persons who did not attend college.

Colleges and universities are clearly the chief source of skilled expertise for business and industry. Investment in postsecondary education is associated with regional economic development: California's Silicon Valley, suburban Boston, and the states of North and South Carolina are but four examples. According to economist Edward Denison, the two most important factors in U.S. productivity are (1) the production of new knowledge (from basic and applied research) and (2) the amount of education that employees have received.

As to social and cultural returns, a recent comprehensive review sponsored by the Carnegie Corporation and Sloan Foundation concluded that a college education is related to improved family life and child-rearing, more intelligent consumership, better health, wider involvement in cultural and artistic activities, more extensive participation in adult education, and greater human understanding and tolerance.

Fostering technological literacy is an emerging imperative. Further needed, as former Dartmouth President John Kemeny urged after serving as chairman of the President's Commission on the Accident at Three-Mile Island, are decision makers who can not only evaluate complex technical information "but who have sufficient breadth . . . because the last decision must always be a value judgment."

"Perhaps the central attribute of U.S. undergraduate education is its diversity—the marked differences in the goals and types of programs at the over 3,000 undergraduate colleges."

Another imperative is based on the nation's world role. College students are not well informed about international affairs and, indeed, simple geography, according to a 1980 nationwide survey of "global understanding." Related is the need for more college graduates with foreign language proficiency and expertise in particular regions of the world. As Congressman Paul Simon has argued, these abilities are necessary for successful international commerce, effective diplomacy, and world peace.

Undergraduate Education

Perhaps the central attribute of U.S. undergraduate education is its diversity—the marked differences in the goals and types of programs at the over 3,000 undergraduate colleges. Potential students, in principle, have wide choice in where to pursue their higher education; they can search out a college whose purposes complement their own. In practice, this wide choice tends to be limited to highly qualified students who come from either very affluent backgrounds or, with scholarship aid, economically disadvantaged backgrounds.

A second and related reality of undergraduate education is its increasing accessibility. This has resulted mainly from the expansion of public colleges since the 1960s, particularly the two-year institutions with their minimal entrance requirements and job-oriented curricula. Meanwhile, independent colleges have greatly increased their enrollments of low-income and minority students. In both public and independent sectors, enrollment has grown faster than the general population, and previously underrepresented populations have enrolled in growing numbers.

"Perhaps the most striking change in the demographic make-up of the campuses, however, has come from the influx of older students, many of them women."

Women now outnumber men. Black students made significant gains until the mid-1970s. Hispanic youth are now increasingly enrolling in college. Blacks and Hispanics, respectively, accounted for 9.2 percent and 3.9 percent of all undergraduates in 1981.

Perhaps the most striking change in the demographic make-up of the campuses, however, has come from the influx of older students, many of them women. Students over 25 now account for 38 percent of college enrollments and this figure is predicted to rise to 47 percent by 1990.

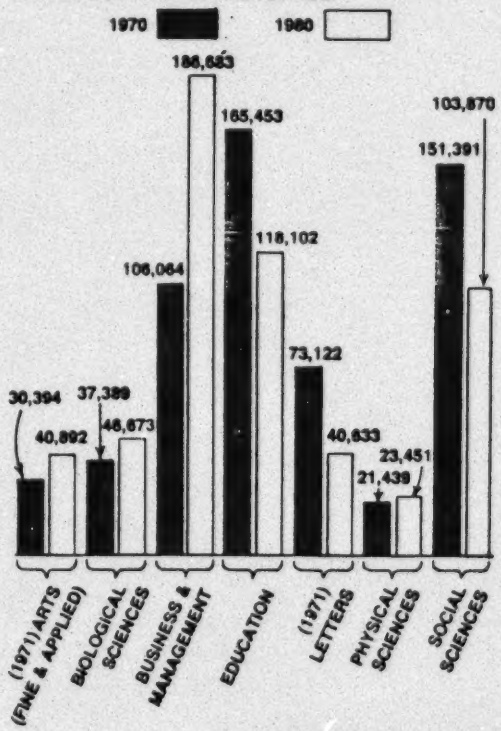
The 1970s also saw important shifts in fields pursued by undergraduates. As the accompanying chart depicts, the trend has been away from education, the social sciences, and the humanities into more applied fields—especially business and engineering. This reflects the large shifts in job opportunities for college graduates and probably also, as Arthur Levine and others have argued, a swing in student interests away from a general, liberal, and "community-oriented" education to a more vocational and "self-oriented" one.

Finally, we must note that most colleges, public as well as private, continue to face severe financial problems. Public institutions in most states are being "level-funded" or asked to absorb cuts in their 1982–83 budgets. Consequences for the range and quality of academic programs can be serious. Only a small number of institutions may escape financial hardship; these are the more selective of the independent colleges and universities plus public institutions in states with expanding economies and tax revenues.

On balance, the opportunities afforded by the range in types of colleges, together with increasing accessibility to most of them, hold great promise for human capital formation in the U.S. In a broadly pluralistic nation, a pluralistic array of colleges should provide for the best possible education for *all* students capable of college work.

Numerous challenges remain, however; they center around achieving educational excellence in

BACHELOR'S DEGREES AWARDED BY U.S. COLLEGES AND UNIVERSITIES



SOURCE: NATIONAL CENTER FOR EDUCATION STATISTICS

"Qualified bachelor's degree recipients in engineering, for example, rather than going on to graduate school, have chosen to take jobs in industry at unusually high salaries. Meanwhile, enrollment of foreign graduate students has grown significantly."

colleges collectively dedicated to wide accessibility. The challenge is to develop human capital across the entire range of both talent and social and economic background. More specifically, we must:

- Preserve diversity in the system including, for example, the smaller private institutions and the black colleges, in the face of severe financial exigencies and the threat of further cuts in federal student aid;
- Recruit and then provide effective programs for Hispanic youth, whose numbers are increasing dramatically but who are greatly underrepresented in higher education; likewise, increase the numbers of black students, whose proportional enrollment has not gained since the mid-1970s;
- Continue to develop useful and accessible programs for older students;
- Work with secondary schools to raise standards and improve instructional effectiveness;
- Ensure that a college degree signifies intellectual competence; and
- Devise ways for undergraduates, in a period of intense vocationalism, to become *generally* educated across important areas of human knowledge and experience.

Graduate and Professional Education

Discovering and disseminating new knowledge, promoting scholarship, and educating competent professionals are among the primary tasks of the nation's graduate and professional schools. While overall headcount enrollment (1.4 million) stands at near record levels, important enrollment shifts in various fields have occurred during the past decade. Postgraduate professional education has experienced strong and steady growth throughout the 1970s: the number of law degrees, for example, increased by 139 percent; medical degrees, 79 percent; MBAs, 155 percent.

The nation's graduate arts and science departments, on the other hand, after a decade of growth ending in the early 1970s, remain stable or, at many universities, are undergoing retrenchment. Qualified bachelor's degree recipients in engineering, for example, rather than going on to graduate school, have chosen to take jobs in industry at unusually high salaries. Meanwhile, enrollment of foreign graduate students has grown significantly: in 1980 they accounted for over one-fifth of all science and engineering doctorates from U.S. universities. Forty-six percent of engineering doctorates went to foreign students, up from 26 percent in 1970. Over a third (36 percent) of agriculture doctorates were awarded to foreign citizens. Mostly from Asia, the majority plan to return to their native countries.

In addition to educating *new* professionals, the nation's universities are increasingly called on to provide continuing education for professionals at all stages of their careers. This relatively new university function reflects a trend toward continuing education of professionals in connection with periodic state relicensure as well as the knowledge explosion, requirements of new technology industries for high-level talent, and individuals' interests in changing careers.

The vitality of the nation's graduate and professional schools is crucial to the development of human capital in its most advanced and highly

"In particular, we must find ways—and devise incentives—to expand graduate science, engineering and related programs. Their increased productivity is essential to meeting critical national human capital needs."

"Roughly 50 percent of all college students—enrolled at least half-time—received some amount of federal aid in 1981, at a cost of close to $6 billion."

specialized forms. They must accelerate efforts to restructure offerings to better meet national labor market needs, such as high technology personnel, while at the same time maintain, as Princeton University President William Bowen has written, "a continuity of excellent scholarship and research in all major fields of knowledge."

In particular, we must find ways—and devise incentives—to expand graduate science, engineering and related programs. Their increased productivity is essential to meeting critical national human capital needs. We must create incentives that will (1) attract much larger numbers of qualified U.S. science and engineering students at the graduate level and (2) attract and retain highly competent science and engineering faculty. We must make a special effort to recruit blacks and Hispanics, who are underrepresented in graduate education.

Investing in Students

Federal and state governments make financial aid available directly (or through colleges) to large numbers of students to help them meet their college expenses

Thus the G.I. Bill was a way for the nation to compensate its World War II veterans. The National Defense (now "Direct") Student Loan Program, originally designed to increase college students in the sciences, mathematics and foreign languages, was the result of the Soviet launching of the "Sputniks." The NDSL Program was also based on the idea that no able student should be denied higher education because of financial need.

This latter goal—to equalize higher education opportunity for students regardless of family income—became the fundamental policy objective of student aid programs, state and federal, established during the 1960s and 1970s. Furthermore, with the federal Basic Educational Opportunity Grants (now called Pell Grants), which go directly to recipients, needy students have more choice in where to attend college. The great variety of colleges is thus more accessible to all students (not just to students from wealthy families). Opportunity, accessibility, and choice reflect fundamental democratic ideals.

Roughly, 50 percent of all college students—enrolled at least half-time—received some amount of federal aid in 1981, at a cost of close to $6 billion. Seven federal student aid programs are currently in operation. Three involve grants (no payback); three provide for loans; and one finances part-time employment. All federal aid is based primarily on need.

Scholarship and grant programs are also operated by all of the states. Altogether in 1981–82, a total of $946 million was paid to 1.3 million students. Twenty-eight percent of all state awards were based on academic potential; the rest were need-based.

The current Administration has sought to greatly reduce the federal government's role in student financial aid. The years 1981 and 1982 have marked a turning point in the post-World War II history of federal student aid. After 25 years of gradual increases, the Congress, urged by the White House, reduced appropriations for all the major student aid programs. These cutbacks are small compared to the Administration's proposal for student aid for the 1983–84 academic year, as reflected in its 1983 fiscal year budget. Altogether, the proposals amounted to a roughly

50 percent reduction in federal student aid from that of the 1981–82 academic year, for a loss of an estimated 2.4 million awards and an effect on approximately 1 million potential loan recipients.

The consequences of such cutbacks would be grave indeed, both for individual students and their families as they make college-going plans and for the nation's colleges and universities as they plan for the years just ahead.

Though Congress did not fully accept the Administration's proposals, White House policy remains a threat.

Investing in Faculty

Teachers at all levels are a basic ingredient in the development of human capital, and they must be rewarded accordingly.

University faculty, in addition to teaching, typically engage in research and share their expertise with government and private industry. An effective faculty, in short, contributes to forming both human and knowledge capital, and is a valuable intellectual resource for a variety of public and private purposes.

We stress the significance of an *effective* and *committed* faculty, because current economic conditions on many campuses discourage strong faculty commitment to academic and public service responsibilities. These conditions, particularly at public institutions, have resulted largely from a general slowdown in spending for higher education caused by the depressed economy and widespread fiscal conservatism.

Retrenchment in higher education, which began during the late 1970s, has affected faculty members in numerous ways:

"Faculty are suffering a kind of 'siege mentality' focused on job security and deteriorating working conditions, which interferes with effective performance."

- Faculty salaries have not kept pace with inflation; real salaries declined by 21 percent between 1970 and 1980. The average salary in 1981, $23,650, compares poorly with pay in private industry for individuals with comparable education. (For example, the average salary in 1980 for the category "Chemist VII" in private industry was $45,883.)
- Laboratory and other teaching and research equipment is increasingly outmoded.
- There are fewer opportunities for professors to stay current in their fields and for professional development generally. Funds for travel to professional meetings, for example, have been widely curtailed.
- Opportunities for mobility—to take new jobs at other institutions—are exceedingly rare.
- Teaching loads have increased.
- Warnings of cutbacks in programs and reductions in staff have become extremely widespread. Increasingly the warnings are leading to actual layoffs.
- Support services, such as office space and secretarial assistance, have been cut.

The net effect on such cutbacks is that the faculty are suffering a kind of "siege mentality" focused on job security and deteriorating working conditions, which interferes with effective performance. Somehow, we must find resources to better compensate college faculty—in financial rewards, in working conditions, and in opportunities for professional growth. The current professoriate, considered outstanding by campus

leaders, collectively represents a large past investment in human capital. Faculty members must be able to use their abilities to the fullest. We must also devise incentives, such as pay and modern equipment, to attract and retain faculty in engineering, computer technology, and other specialties for which there are national needs.

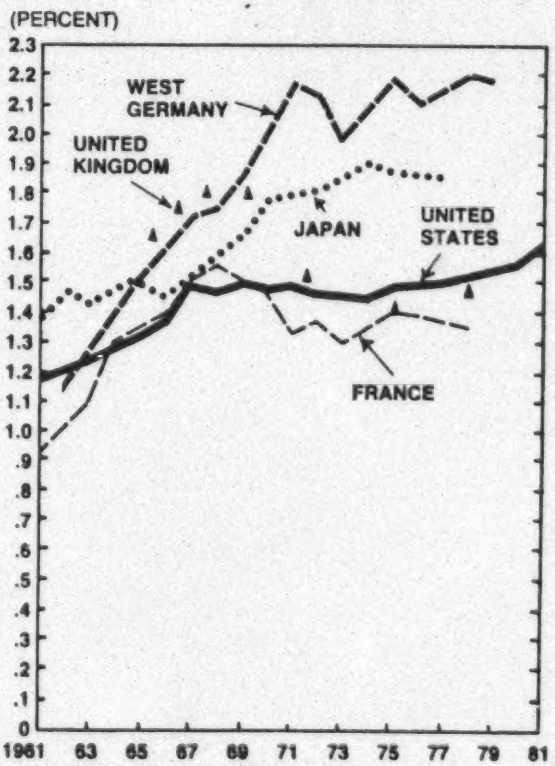
And, college faculty, beyond existing demands on them, must give higher priority to preparing large numbers of science and mathematics teachers for the elementary and secondary grades.

Investing in Research and New Knowledge

We are all aware of the spectacular scientific discoveries of the past decade: in molecular biology, recombinant DNA and biotechnology; in nuclear, laser and other medical technologies; in astrophysics and space exploration; in computers, robotics, and artificial intelligence; in electronic media and communications; and in agriculture (disease-resistant hybrid corn and potatoes, for example). Many of these achievements occurred on university campuses. All were derived from *basic research*, most of it carried out in universities.

Despite the dramatic advances, support for science and technology in the U.S. has grown only modestly over the past decade: precisely, no growth in research and development (R and D) expenditures between 1970 and 1975, and an average of 4 percent annual growth since. The ratio of civilian R and D to Gross National Product in the U.S. has risen only slightly in the last 15 years and is well below that of West Germany and Japan, as the accompanying chart makes

ESTIMATED RATIO OF CIVILIAN* R&D EXPENDITURES TO GROSS NATIONAL PRODUCTS (GNP) FOR SELECTED COUNTRIES



*NATIONAL EXPENDITURES EXCLUDING GOVERNMENT FUNDS FOR DEFENSE AND SPACE R&D

SOURCE: NATIONAL SCIENCE FOUNDATION *SCIENCE INDICATORS, 1980.*

clear. Domestic patents granted to U.S. inventors declined by 16 percent between 1971 and 1978, while U.S. patents to foreign inventors increased

"Industry now funds about 4 percent of all academic R and D; though still a small proportion, it is growing at a faster rate than federal funding."

"Not even the leading universities are keeping pace with advances in instrumentation; indeed, the median age of their equipment was found in one study to be twice that at two leading commercial laboratories."

by 11 percent! Expenditures for basic research at universities increased by an average of 2 percent per year during the decade (constant dollars).

The federal government funds an estimated 69 percent of all basic research in the nation. Some 50 to 60 percent of all U.S. basic research is conducted on university campuses. In constant dollars, the federal investment in university based basic research has increased by 2 percent annually, to $3.6 billion in 1979. While biomedicine has for some time had the highest federal research priority, the fastest growing "buyer" of basic research currently is the Department of Defense. Industry now funds about 4 percent of all academic R and D; though still a small proportion, it is growing at a faster rate than federal funding.

Basic research underlies all technological advance. It warrants investment substantially higher than current levels: for improved future performance of the economy; for improved position vis-à-vis international competitors; and for an improved—for example, healthier—standard of living.

Investing in Facilities

Good physical facilities, including up-to-date scientific equipment, are essential to maximal development of human capital.

Altogether, the higher education physical plant in the U.S. represents an enormous investment. This capital foundation, "after years of quiet erosion," in the words of Swarthmore administrators Lawrence Landry and Rodney Mebane, "is crumbling." They point to estimates that one-quarter of existing plant space needs renovation and put the cost of current capital renewal requirements at $50 billion.

Reasons for deterioration of higher education's physical plant include extraordinary inflation rates, soaring energy costs, difficulty in obtaining financing for capital improvements, various government requirements for renovation (for example, access for handicapped students), and decisions to allocate available funds to other purposes, such as student aid.

Growing obsolescence of laboratory and other scientific instrumentation on campuses is of particular concern. "State-of-the-art" equipment is essential to both effective advanced training of students and high levels of research productivity. Not even the leading universities are keeping pace with advances in instrumentation; indeed, the median age of their equipment was found in one study to be twice that at two leading commercial laboratories.

Retooling the Workforce

Workers of all ages can be viewed as an extremely large part of the nation's total stock of human capital. A very large investment has gone into their education, training, and work experience. This investment must be protected and nurtured. Workers should have opportunities to advance or, if they wish or must, shift to new jobs. They should not have to be jobless for any extended period.

Retraining workers should become an urgent priority, as underscored by the following facts:

- In the fall of 1982, over 11 million citizens—more than 10 percent of the workforce—were out of work. Many, with training,

"There are many indications that in the past several years—perhaps since 1978—major changes are beginning in the general pattern of higher education funding in the U.S."

could find suitable jobs. (And they would pay taxes rather than drain taxes.)

- There are shortages of many types of skilled workers: computer specialists, word processing machine operators, machinists, tool and die makers, nurses and other healthcare specialists, and people to maintain robots.
- A survey by the American Electronics Association found that its 671 member firms would need 140,000 technicians of various kinds by 1985.
- The Reagan Administration projects a $1.5 trillion defense budget over the next five years. A vast supply of trained labor will be needed for a defense buildup of such magnitude.
- Accelerating technological change renders much of the workforce obsolete. New manufacturing technologies are coming on line. As industries retool, their employees must retool.

Increasingly, colleges have become involved in employee training. Hundreds, perhaps thousands, of cooperative arrangements for the education and skill-upgrading of employees now exist between colleges and local businesses and industries. Data from the Census Bureau, reported by the National Institute of Education, indicate an 84 percent increase in employer-financed training at two-year colleges between 1968 and 1978 and a 42 percent increase at four-year institutions.

Higher education can be an integral part of any new comprehensive training system for this country. Most of the colleges already have experience in designing training programs to meet local labor market needs. They stand ready to cooperate with government, industry and labor, in the spirit of what Harvard University President Derek Bok calls a "compact with society," to assist in retooling the nation's workforce.

Financing Higher Education

In contrast to most countries where higher education receives its financial support almost entirely from government, postsecondary education in the United States is funded from a number of major sources. These include the federal government; state governments; tuition and fees paid by students; and gifts, grants, and endowment income.

The pattern of funding, or course, is very different for public institutions than for independent colleges and universities. Whereas 63 percent of the funding for the public sector in 1980 came from government at all levels, the largest source of revenues for independent institutions was tuition: 43 percent for the four-year colleges and 27 percent for the universities (which also received 27 percent from federal sources, mostly for research).

Funding from state governments, the largest single source of higher education revenues, grew faster during the first half of the 1970s than during the last half. State funds accounted in 1980 for: 42 percent of the revenues of public universities (up from 38 percent in 1970); four-year colleges, 49 percent in 1980 (50 percent in 1970); and two-year colleges, 52 percent in 1980 (42 percent in 1970).

There are many indications that in the past several years—perhaps since 1978—major changes are beginning in the general pattern of higher

"The trend toward higher tuition and fees is especially alarming because of the threat it poses to the expanded opportunity for higher education achieved over the past two decades."

"The most important new challenge to the nation's colleges and universities is to educate the needed human resources, conduct the necessary research, and otherwise support the technological and information based society that is rapidly emerging in the United States."

education funding in the U.S. The principal underlying reasons seem to be the generally poor state of the economy—the seemingly intractable "stagflation"—and a climate of fiscal conservatism, as manifested, for example, in the tax-limitation measures passed in many states, and in the federal government cutbacks in education and other domestic programs during the past two years. A shift toward greater reliance on student fees is emerging.

Yale economists Stephen Dresch and Adair Waldenberg recently completed a study of the financial prospects of various types of colleges and universities in the U.S. in which they "simulated" trends in many of the factors that this report has discussed. Their computers tell us that between the years 1978 and 1988, tuition as a proportion of total institutional revenues will increase by: 11 to 20 percent, depending on certain assumptions, across all higher education institutions; 5 to 17 percent at public universities; 19 to 33 percent at the public community colleges; 2 to 5 percent in the private universities; and 9 to 15 percent at private four-year colleges.

Certainly, the most serious impact of this dual trend—increased tuition and reduced federal student aid—will be on students from middle- and low-income families. Many will no longer have the opportunity for any higher education. Many more will be restricted to inexpensive, local colleges, which may not enable them to fulfill their potential. The frustrated ambitions, the loss of human capital, and possibly the loss of entire institutions that students can no longer afford would be extremely unfortunate for the nation.

The trend toward higher tuition and fees is especially alarming because of the threat it poses to the expanded opportunity for higher education achieved over the past two decades.

In Conclusion . . .

Many aspects of the higher education enterprise are essentially healthy. In particular, great progress—unparalleled in the world—has been made in affording access to students who have not traditionally pursued higher education.

The most important new challenge to the nation's colleges and universities is to educate the needed human resources, conduct the necessary research, and otherwise support the technological and information-based society that is rapidly emerging in the United States.

A strong and diversified system of colleges and universities represents our main resource for developing leaders with vision, informed participants in civic life, highly competent teachers and other professionals, talented artists, skilled workers, and a generally intelligent citizenry.

Largely because of the poor national economy and its impact on institutions' budgets, conditions for teaching and learning on the campuses, and for research and scholarship, are deteriorating. Reductions in federal student aid threaten the continued accessibility of our colleges.

We encourage all parties interested in strong colleges and universities to form a partnership to forge a broad strategy for financial support of U.S. higher education to ensure its continued vitality. At stake are the economic and technological progress of the nation and the full development of individual potentials.

Appendix

Higher Education in America—Some Facts

Higher education in the U.S. is a massive enterprise. Almost half of all high school graduates enroll in a college or university by the time they are 21. No other country comes close to this college-going rate.

Altogether in 1982 there are some 3,270 institutions of higher education in the U.S. Slightly less than half of them—1,510, or 46 percent—are publicly controlled. Of these, 949 are two-year colleges. A total of 203 public universities award the doctorate.

The independent sector includes 1,587 institutions—51 percent of the total. Of these, 773, or 49 percent, are religiously affiliated; the rest are independent. Some 187 are two-year institutions, and 233 private universities offer the doctorate.

Total enrollment in credit courses across all institutions in the fall of 1980 stood at 12.2 million, an increase of 42 percent over the 1970 figure of 8.6 million. Fifty-one percent are women, up from 41 percent a decade ago. Forty-one percent are enrolled part-time, up from [illegible] percent in 1970.

Because public colleges on the average are larger than private institutions, the public sector enrolled better than three-fourths—78 percent—of the total. Enrollment in public colleges and universities has increased by 46 percent since 1970. Total enrollment in the private colleges and universities has grown more modestly since 1970, by 23 percent.

The largest gains have come in the public community colleges: they increased from 654 colleges and 2.2 million students in 1970 to 949 colleges and 4.3 million students in 1980 (a 95 percent increase in enrollment over the decade).

Beyond the 12.2 million enrolled for credit, during the 1979–1980 academic year there were 12.3 million registrations in noncredit courses sponsored by higher education institutions.

Among other 1980 benchmark statistics:

- 1.3 million college degrees were conferred: 70 percent were bachelor's; 22 percent, master's; 3 percent, doctor's; and 5 percent, first professional. The one appreciable trend is for professional degrees, up 85 percent since 1971!
- Total current funds expenditures by all colleges in 1980 stood at $60 billion, up from $41.4 billion in 1970 (constant 1980 dollars).
- Market value of endowment stood at $20.7 billion, up .7 percent since 1975: public institutions, $3.7 billion, down 1.1 percent; private institutions, $17 billion, up 1.1 percent (all constant 1980 dollars).

The Association Council for Policy Analysis and Research (ACPAR), currently comprising 22 Washington-based higher education associations serving the public and independent sectors, is primarily concerned with the advancement of quality research and analysis on major public policy issues affecting higher education.

ACPAR's purpose is threefold: to provide a forum for identifying major policy issues for research analysis; to encourage coordination of research and analysis activities of the Washington-based education associations, including cooperative projects; and to advise the American Council on Education's Division of Policy Analysis and Research concerning research priorities and strategies.

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National Science Foundation. *Science Indicators,* 1980.

Boyer, E. L., and Hechinger, F. M. *Higher Learning in the Nation's Service,* 1981.

National Center for Education Statistics. *Digest of Educational Statistics,* 1982. (unpublished tables).

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Hughes, G., Landry, L. and Mebane, R. "Capital Crisis in Higher Education," *Business Officer,* February 1982.

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